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10/792,343

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7590 01/23/2007
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EXAMINER

OSELE, MARK A

ART UNIT

PAPER NUMBER

1734

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

01/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/792,343

Applicant(s)

TOMINAGA, MITSUHIRO

Examiner

Mark A. Osele

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 10-12, 14-17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-12, 14-17, 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 10-12, 16-17, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nose et al. (US 5,685,944) in view of Mendelovich et al. (US 5,735,999) and Akemi et al. (US 5,505,306). Nose et al. discloses a transfer tool comprising a housing (Figure 2, casing C, case members C1 and C2) having an interior surface; and ribbon substrate (Figure 1, film transfer ribbon R) that travels inside the housing, the ribbon substrate being coated with an adhesive coating film to be transferred from the ribbon substrate (column 10, lines 23-27) onto the targeted object when the ribbon substrate is pressed onto the targeted object, wherein after film transfer, the adhesive film breaks near an end of the transferred length when the ribbon substrate is pulled away from the targeted object (Fig. 15). Nose et al. does not disclose a transfer tool wherein the interior surface of the housing is roughened at least in a region wherein the coating film on the ribbon substrate may contact the interior surface of the housing.

Mendelovich et al. discloses a transfer tool wherein the interior surface of the housing includes multiple projections, 66, wherein each projection has a higher point

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than any other portions thereof in its configuration. The projections are located at least in a region wherein adhesive elements on a carrier tape may contact the interior surface of the housing (Figure 7) to prevent the adhesive tape from undesirably sticking to the interior surface of the housing (column 5, lines 1-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the transfer tool of Nose et al. to include projections on the interior surface of the housing as suggested by Mendelovich et al. to prevent the coating film from adhering to the interior surface of the housing. The references as combined fail to discuss the center average height of the projections.

Akemi et al. teaches that the height of projections for preventing an adhesive film from sticking to a surface and the proportion of the surface area comprising the projections vary depending upon the composition of the adhesive (column 4, lines 30-63). Akemi et al. further teaches the preferred height of the projections to be 2 to 1000 μm . It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the center average height of the projections of the references as combined greater than 9 μm because Akemi et al. teaches that this range is satisfactory for conventional adhesives. Furthermore, Akemi et al. teaches that the projection height and pitch are result effective variables dependent upon the composition of the adhesive and one of ordinary skill in the art would use routine optimization to determine the appropriate height and load length ratio.

Regarding independent claim 23, Akemi et al. teaches that the percentage of the projections is also dependent upon the composition of the adhesive. It would have

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been obvious to one of ordinary skill in the art at the time the invention was made to make the ratio of a pitch to a height of the projections equal to or lower than 22.0 because Akemi et al. teaches that the projection height and pitch are result effective variables dependent upon the composition of the adhesive and one of ordinary skill in the art would use routine optimization to determine the appropriate ratio.

As to claim 2, the references as combined (see Nose et al.) disclose a transfer tool wherein the ribbon substrate is a tape (see Figure 1, film transfer ribbon R).

As to claim 10, the references as combined are silent as to a transfer tool wherein the entire inner surface of the housing has a roughened surface. When modifying the transfer tool of Nose et al. as noted above to include roughening the interior surface of the housing to prevent the coating film from adhering to the interior surface of the housing, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the housing of Nose et al. to include projections on its entire inner surface to minimize the possibility of having the coating film undesirably adhere to any portion of the housing's interior.

As to claim 11, the references as combined (see Mendelovich et al.) disclose a transfer tool wherein the housing has projections along a path where the ribbon substrate (Figure 7, carrier tape 98) travels inside the housing.

As to claim 12, the references as combined (see Mendelovich et al.) disclose a transfer tool further comprising a dispenser at which the coating film is dispensed from the ribbon substrate, wherein the projections provided on an upstream side of the dispenser.

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As to claim 16, the references as combined (see Mendelovich et al.) disclose a transfer tool wherein the projections are formed in a repetition of a predetermined pattern (Figure 7). In any event, it would have been readily apparent to one of ordinary skill in the art at the time of the invention to select the shape of the projections to form a variety of patterns as an aesthetic design choice.

As to claim 17, the references as combined (see Nose et al.) disclose a transfer tool wherein the coating film is a correction film (column 21, lines 53-54).

As to claim 19, the references as combined (see Nose et al.) disclose a transfer tool wherein the ribbon substrate is formed mainly of polyethylene (column 14, lines 30-32) and has a thickness of about 25 μm (column 10, lines 23-24).

As to claim 22, the references as combined (see Nose et al.) disclose a transfer tool wherein the coating film is about 20 μm in thickness (column 10, lines 25-26).

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nose et al. (US 5,685,944) in view of Mendelovich et al. (US 5,735,999) and Akemi et al. as applied to claim 1 above, and further in view of the admitted prior art and Daouse et al. The references as combined do not disclose a transfer tool wherein at least the roughened surface of the housing contains a non-stick material. The admitted prior art discloses a transfer tool wherein a surface of the housing contains a non-stick material (page 2 of the specification, paragraph 8). When modifying the inner surfaces of the housing as noted above to be resistant to the undesired adhesion of the coating film, it would have been obvious to one of ordinary skill in the art at the time of the invention to

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modify the roughened surface of the housing of the references as combined to contain a non-stick material as suggested by the admitted prior art to provide the interior surface of the housing with additional resistance to the undesired adhesion of the coating film.

Daouse et al. teaches that an effective plastic material for non-stick objects is polyethylene (column 4, lines 52-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the housing of the references as combined of polyethylene because Daouse et al. teaches this to be a well known non-stick material.

4. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nose et al. (US 5,685,944) and Fischer (US 4,704,185) or Mendelovich et al. (US 5,735,999) as applied to claims 1 and 23 above, and further in view of Kamata (US 5,431,697). The references as combined show a transfer tool made mainly of polyethylene. Kamata et al. teaches that a color changing injection molded article of either polyethylene or polypropylene (column 3, lines 11-17) should include a metal salt of stearic acid as a dispersant (column 7, lines 3-8). Kamata et al. further teaches an effective dispersant to be a combination of magnesium stearate and zinc stearate in a total amount of approximately 0.4% of material weight (column 9, lines 35-42). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add magnesium stearate and zinc stearate into the injection molding composition of the references as combined above because Kamata et al. teaches that these materials are important as a dispersant when adding a material such as a colorant.

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5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nose et al. (US 5,685,944) in view of Mendelovich et al. (US 5,735,999) as applied to claims 1 and 23 above, and further in view of Van Hoof et al. (US 3,936,571). The references as combined do not disclose a transfer tool wherein the ribbon substrate is processed for both surfaces to exhibit releasability. It is well known and conventional in the tape dispenser art, as disclosed by Van Hoof et al. (column 3, lines 41-48), to coat one or both sides of a liner carrying an adhesive tape with an anti-adhesion agent to prevent adjacent convolutions of the adhesive tape roll from bonding together, as well as for handling adhesive tapes which have an adhesive layer on both sides. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ribbon substrate of the references as combined to have both surfaces coated with an anti-adhesion agent as suggested by Van Hoof et al.; coating both sides of a release liner being well established in the art for preventing adjacent convolutions of an adhesive tape roll from bonding together.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nose et al. (US 5,685,944) and Fischer (US 4,704,185) or Mendelovich et al. (US 5,735,999) as applied to claims 1 and 23 above, and further in view of Yamashita (US 2004/0180196). The references as combined are silent as to the composition of the coating film. Yamashita discloses a transfer tape comprising an emulsion-type acrylic adhesive, a rosin-type tackifier, a phthalocyanine blue colorant, crawling inhibitor, and water, which maintains strong adhesive strength but can be reliably cut at a stipulated position

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(abstract; page 3, paragraphs 36-42). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the coating film of the references as combined to include an emulsion-type acrylic adhesive, a rosin-type tackifier, a phthalocyanine blue colorant, crawling inhibitor, and water as suggested by Yamashita to provide a transfer tape which maintains strong adhesive strength but can be reliably cut at a stipulated position.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. The amendment filed June 9, 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the housing is made of a material selected from a group consisting of polyethylene and polypropylene. The original disclosure only contemplates a housing made of a material that comprises polyethylene or polypropylene along with a non-stick material.

Applicant is required to cancel the new matter in the reply to this Office Action.

9. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not

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described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The new matter not described in the originally filed disclosure is: the housing is made, by a process of injection molding, of a material selected from a group *consisting of* polyethylene and polypropylene.

Response to Arguments

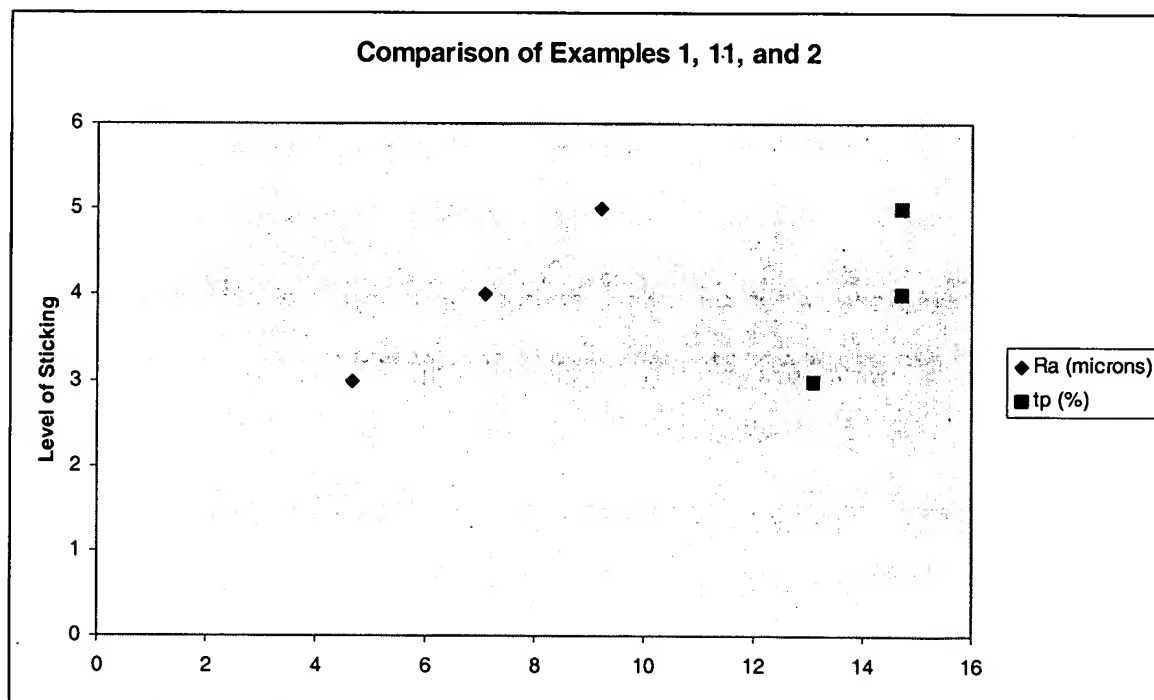
10. Applicant's arguments filed October 30, 2006 have been fully considered but they are not persuasive. Applicant argues that the cylindrical bars of Mendelovich do not have one peak point. The original specification does not define "point" nor even contain the word, "point" so the claimed limitation, "...each of the multiple projections comprises one point higher than any other portions thereof..." must be viewed in light of the originally filed drawings. Fig. 7B shows what appear to be pyramidal projections which would have one point higher than any other portions when using the geometric definition of "point." Alternatively, Fig. 7A shows projections comprising triangular bars which would have one point higher than any other portions when using a geological definition of "point" as in a ridge being the highest point of a mountain. The cylindrical bars of Mendelovich meet this latter definition and are equivalent to the projections of Fig. 7A.

Applicant also argues that one of ordinary skill in the art would not have used routine optimization to achieve the claimed limitations that the center average height of the projections is greater than 9.0 μm and a load length ratio of the multiple projections at a cut level of 20% is equal to or less than 20%. Applicant states, "This surprising and

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unexpected result regarding the non-sticking is achieved only if the two limitations are satisfied that (i) the projections have a center average height greater than 9.0 μm and (ii) a load length ratio of the multiple projections at a cut level of 20% be equal to or less than 20%.” The unexpected results allegation is not supported by analysis of the examples as a whole.

For instance, comparing examples 1, 11, and 2 which are all made of polystyrene with no non-stick material:

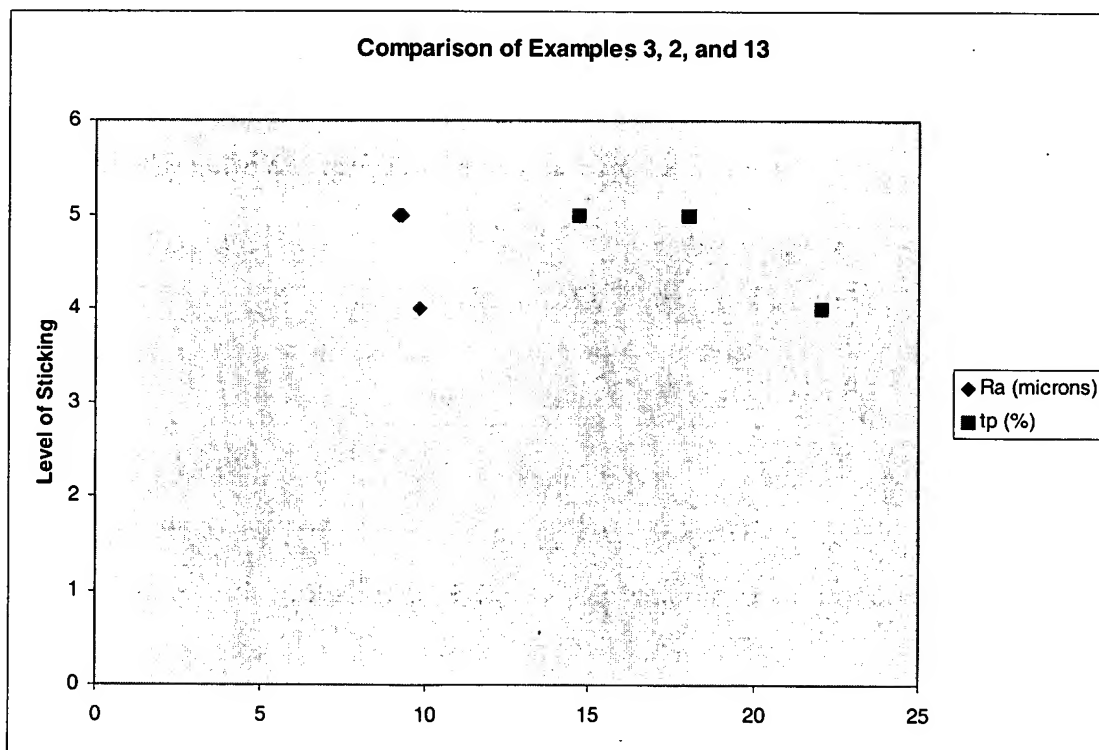


As shown in the above chart, while the tp(%) was reasonably constant in the three examples (13.1, 14.7, and 14.7 respectively), the Ra (μm) changed from 4.7 to 7.1 to 9.2 with a resultant increase in the sticking test as the Ra increased. Routine

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optimization would have suggested an Ra greater than 9 μm based upon these three examples. There are no unexpected results for sticking performance when changing the Ra.

Similarly, comparing examples 3, 2, and 13 which are all made of polystyrene with no non-stick material:



As shown in this chart, while the Ra (μm) was reasonably constant in the three examples (9.8, 9.2, and 9.3 respectively), the tp(%) changed from 22 to 18 to 14.7 with a resultant increase in the sticking test for values less than 20%. Routine optimization would have suggested a tp less than 20% based upon these three examples. There are no unexpected results for sticking performance when changing the tp.

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The conclusion from the above analysis shows that there is no synergy between the center average height and load length ratio of the multiple projections at a cut level of 20%. One of ordinary skill in the art would have used the routine optimization shown by applicant's own tests to conclude that optimum sticking performance is obtained when making the center average height greater than 9.0 μm and the load length ratio of the multiple projections at a cut level of 20% equal to or less than 20%.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

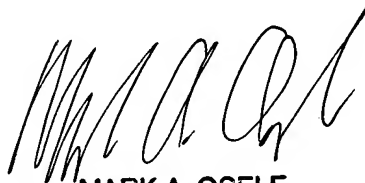
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Osele whose telephone number is 571-272-1235. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on 571-272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MARK A. OSELE
PRIMARY EXAMINER

January 20, 2007